Telecommunications and education – the two are becoming increasingly intertwined in our classrooms and programs at all levels, especially in teacher education programs that are preparing educators to effectively use these technologies in their classrooms. The range of applicable technologies is growing as new ones are emerging and current ones are expanding. The number of schools with Internet-connected computers in libraries, labs, and classrooms continues to grow, providing potential opportunities for students and teachers to participate in global learning communities, and to both retrieve and produce educational resources. Teachers must learn to use and feel comfortable with these technologies, as tools to enhance teaching and learning. So where and how does this take place? The papers in this section demonstrate the wide range of approaches, for both preservice and inservice teachers, in university, field-based, and alternative programs, with delivery 'sites' being online (Internet), videoconferencing, university classrooms, or K-12 schools – either individually or in combination.

Both video-conferencing and online Internet-based courses are described, as are uses of these technologies as integral components of classroom-based courses and/or faculty development. Also discussed are general support and community resources that are not course-connected, and that speak to the concept of lifelong learning. Taken as a whole, these papers provide a snapshot of ways that telecommunications can be used to support and promote effective teaching and learning in today’s educational settings. Accounts of both successes and lessons-learned, as well as discussion of methods of assessment of the use and/or effectiveness of various technologies provide guidance for current and future educators.

The Internet may be a veritable goldmine of resources, or it can be an endless maze through which educators wander in a fruitless quest for those resources. Growing numbers of portals and other methods of organizing Internet resources are appearing. Levin and Grotto introduce one such effort – discussing how resources are selected and evaluated for inclusion in a database, and how teachers can become a part of that process. In addition to finding resources, the Internet also provides a forum in which educators can share resources they have created, thus contributing to others in their profession. Repman, Carlson, and Downs describe and provide links to a number of web-based tools that they have found helpful for productivity and instruction. Gersh, also explores web-based tools, discussing those that facilitate “Internetized” lessons and internet-based projects. Specialized applications provide opportunities such as the use of remote scientific instrumentation technology in K-12 and teacher education classrooms, as described by Thakkar, et al. This use of Internet-based activities is basic to the world of telecommunications for classroom instruction, and opportunities to learn more are often available at universities and colleges, as well as at school districts.

E-mail has become almost as common, if not more so, than the postal service it sometimes seems, and is but one of the methods of communication enabled by telecommunications. Several papers explore the communication and community building aspect of the Internet and related tools. Thomeczek examined electronic communication in an undergraduate teacher education course, and compared an e-mail discussion list with a web-based discussion board. Collier and Yoder suggest techniques, based on existing literature, for conducting successful online discussions and collaboration. Tuzun and Yilmaz describe an online learning community of inservice and preservice teachers, communicating via ICQ Active List. Leh and Winograd present some moderating strategies for instructors who are managing online computer conferences. Online communication forums may promote life-long learning, as students continue with these communities after completing their university studies.

Communication is also enhanced by the use of telecommunications to link university classrooms with those in K-12, a practice that has provided unique opportunities for preservice teachers to
observe and interact with schools at a distance. Adcock and Austin discuss their experiences with a preservice observation project that connected the university with public school classrooms via a two-way audio/video conferencing system. Lehman and Razzouk describe a method of observation/interaction using IP-based videoconferencing. Boccia, Fontaine, and Lucas describe a “two-way television teaching, debriefing, and general mentoring” program that led to the development of a CD to help better prepare preservice teachers for observations. Videoconferencing permits students to broaden their perspectives and experiences, as they ‘visit’ schools, often at a distance.

Online courses also provide experiences ‘at a distance,’ and studies relating to faculty and students are being conducted to help guide the development of successful educational experiences for all. McKenzie, Waugh, Bennett, and Mims report the findings from their study of what faculty should know about course preparation for online learning. Tucker and Blocher review characteristics of successful distance education students and then describe their study of students and online collaboration. Other papers describe online courses for high school students, and for faculty development.

Integration of technology is one of the ‘buzz-words’ of the day – teacher preparation programs debate whether to have a stand-alone computer course, or whether to integrate technology throughout the teacher preparation program. What is the best method of introducing preservice teachers to ways to integrate technology into their future classrooms? Redmond and Albion used a newsgroup and a guest ‘expert’ in communication with preservice teachers to explore that question, and they report the results and explain their choice of methodology. Koro_ec, Kumpulainen, and McManus have also addressed the integration issue – they describe a survey they developed to obtain information about technology integration from faculty and students, on an institution-wide basis.

The papers in this section demonstrate a wide range of uses for telecommunications throughout the educational arena. There are full courses offered via video-conferencing, while others are online over the Internet. There are classroom-based courses, with online or video components. The modes of communication vary, as do the uses to which this technology is put, and the authors provide a view into successful implementations, as well as a discussion of lessons learned and some suggestions for improvement. The body of literature is expanding, as are the technologies. These papers provide a snapshot of ways telecommunications technologies are being used in support of teaching and learning.